

# YOUR DRINKING WATER REPORT



## ANNUAL WATER QUALITY REPORT FOR 2012

This 24th Annual Water Quality Report summarizes testing on Lodi's water supply by State certified laboratories and provides information about the water system.

### WATER QUALITY

Lodi is fortunate in having a high quality water supply. However, that supply is at risk and must be carefully managed. The following section describes some of these measures.

### DBCP

Dibromochloropropane (DBCP) was used by farmers to kill nematodes in vineyards. DBCP was banned in California in 1977, but is still present in trace levels in some groundwater. The City of Lodi used a network of 27 wells to provide drinking water in 2012. The wells are rotated so over the course

of time, water being delivered is a blend from these wells.

Thirteen of Lodi's wells had no detectable DBCP. Six wells have filters to remove

DBCP. Six meet State and Federal standards, but have trace amounts of DBCP. One well exceeded the maximum contaminant level and was immediately taken off line and put into standby. Filters for this well are currently being installed. **The result is that the people of Lodi are receiving water deemed safe by the U.S. EPA and the State.**

In 1996 the City settled a lawsuit against DBCP manufacturers, who have already paid the City for a large portion of Lodi's costs related to DBCP treatment. These manufacturers will continue to pay a large por-

tion of the City's DBCP related costs for the settlement's 40-year term.

### PCE/TCE

The City, working with regulatory agencies and potentially responsible parties in a cooperative manner, is pursuing a resolution to a groundwater contamination problem in the north and central Lodi area.

While no operating wells are out of compliance with any drinking water standards, the contamination is a serious threat. PCE (Tetrachloroethylene) and TCE (Trichloroethylene) have been detected in samples taken in soils and groundwater. Cleanup work is ongoing. The City has developed a computer model of the groundwater,

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### ADDITIONAL INFORMATION ABOUT THIS REPORT:

- ♦ *Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien. Para la ayuda en español, llama por favor (209) 333-6740.*
- ♦ This Report can also be found on the City's web site at [www.lodi.gov](http://www.lodi.gov), go to: City Departments; Public Works; Water; 2012 Water Quality Report.
- ♦ This report follows the "Consumer Confidence Report" (CCR) format required by the U.S. Environmental Protection Agency and the State of California

## YOUR WATER SYSTEM

The water delivered to your tap meets or exceeds all federal and state water quality standards and comes from a blend of ground and surface waters.

Twenty-seven computer controlled wells, located throughout the City, provide high quality groundwater blended with treated Mokelumne river water. The wells operate automatically on

water pressure demand so that when water use increases, more wells are started. The groundwater basin, however, is being depleted. As a result, Lodi has diversified its water supply by obtaining water from the Mokelumne River and has constructed a surface water treatment plant that began treating and supplying water in Fall 2012. More information on water supply

is on the City's web site.

Seven wells are fitted with emergency diesel-powered generators. (While these generators will help maintain water pressure during power outages, please refrain from using water during power outages to save capacity for essential uses, - hospitals, fire fighting, etc.)

### FOR MORE INFORMATION

If you have any questions about this report or Lodi's water quality, please contact:

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Regulated Inorganic Chemicals* 2010-2012 Data	MCL	Average	Range of Individual Detections	PHG or (MCLG)	Major sources in Drinking water	
Arsenic, ug/L	10	4.2	9.1-ND	0.004	Erosion of natural deposits (see message below)	
Barium, mg/L	1	0.1	0.19-ND	2	Erosion of natural deposits	
Fluoride, mg/L	2.0	0.15	0.26-ND	1	Erosion of natural deposits	
Nitrate as NO <sub>3</sub> , mg/L	45	10.5	25-ND	45	Leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits (see below)	
Bacterial Water Quality Coliform Bacteria 2012 Data	MCL	Total Positive	Monthly High-Low Range	PHG or (MCLG)	Major sources in Drinking water	
Total Coliform, Positive	5%/month	0.1 %	1.0 % - 0%	(0)	Naturally present in the environment	
Fecal Coliform & E. coli	>1 /month	0	0 - 0	(0)	Human and animal fecal waste	
Radioactivity, pico Curies per Liter, 2005-12 Data	MCL	Average	Range of Individual Detections	PHG or (MCLG)	Major Sources in Drinking water	
Gross Alpha, pCi/L	15	3.25	11.8 - 0.02	(0)	Erosion of natural deposits	
Radium 228	2	0.14	0.46-ND	0.019	Erosion of natural deposits	
Uranium, pCi/L	20	2.55	10.2-ND	0.43	Erosion of natural deposits	
ORGANIC CHEMICALS WITH AT LEAST ONE CONFIRMED DETECTION						
Regulated Organic Chemicals 2012 Data	MCL	Average	Range of Individual Detections	PHG Or (MCLG)	Major sources in Drinking water	
Tetrachloroethylene (PCE), ppb	5	0.11	2.4** - ND	0.06	Discharge from factories, dry cleaners, and auto shops (metal degreaser)	
1,1-Dichloroethylene (1,1-DCE), ppb	6	0.02	0.89**-ND	10	Discharge from industrial chemical factories. Local contamination from businesses using the chemical.	
Trichloroethylene (TCE), ppb	5	0.10	2.9**-ND	1.7	Discharge from metal degreasing sites and other factories. Local ground contamination from businesses using the chemical. Breakdown product of Tetrachloroethylene (PCE).	
Dibromochloro-propane (DBCP), ppt	200	23	210**-ND	1.7	Banned nematocide that may still be present in soils due to runoff/leaching from former use on vineyards.	
Disinfection Byproducts, Disinfection Residuals, and disinfection Byproduct Precursors						
2012 Data	MCL	Average	Range of Individual Detections	PHG Or (MCLG)	Major sources in Drinking water	
Chlorine, mg/L	4	0.17	.87-ND	4	Drinking water disinfectant added for treatment	
Control of DBP precursors (TOC), mg/L	TT	1.95	2.1-1.8	TT	Various natural and man-made sources	
TTHM (Total Trihalomethanes), ppb	80	0.12	.72-ND	N/A	By-product of drinking water disinfection	
Lead & Copper Rule Customer Tap Monitoring 2009 Data	AL (Action Level)	Average 90th Percentile	Range of Individual Detections	# Samples Exceeding AL (of 40 samples from 40 sites)	PHG or (MCLG)	Major sources in Drinking Water
Lead, 90th %, ug/L	15	1.3	16-ND	1	0.2	Internal erosion of household plumbing
Copper, 90th %, mg/L	1.3	0.34	0.49-0.007	0	0.3	systems; erosion of natural deposits
Secondary Standards Aesthetic Purposes (see note) *2009-2012 Data	Secondary MCL	Average	Range of Individual Detections	Other non-regulated water constituents found in your water (for your information only)		
Chloride, mg/L	500	14	44-2.3	Non-regulated water constituents, *2008-10 Data		
Color-Units	15	ND	5-ND	Average		
Specific Conductance, umhos/cm	1600	305	610-62	Range of Detections		
Odor---Threshold, Units	3	ND	2-ND	Total Hardness, mg/L as CaCO3		
Secondary Standards Aesthetic Purposes (see note) *2010-2012 Data	Secondary MCL	Average	Range of Individual Detections	Total Hardness, grains/gal.		
Sulfate, mg/L	500	14	45-1.3	Calcium, mg/L		
Total Dissolved Solids, mg/L	1000	238	440-40	Sodium, mg/L		
Turbidity, NTU Units	5	0.12	0.29-0.02	Potassium, mg/L		
Note: Aesthetic problems are only associated with taste, smell, and other problems which are not a health risk.				Alkalinity (bicarbonate), mg/L		
				pH, in pH units		
				Magnesium, mg/L		
				* Regulations call for monitoring of some constituents less than once per year because the concentrations of these constituents do not change frequently. Therefore, some of our data, though representative, are more than one year old.		
				**Averages are used for compliance determination due to the variable nature of individual analyses, and due to the fact that any associated theoretical risks are not acute, but theoretically only after years of exposure to levels above MCLs.		
Sampling results showing treatment of surface water sources						
Treatment Technique (TT)						
Membrane Filtration (Micro-filtration)						
*Turbidity Performance Standards (That must be met through the treatment process)				Turbidity of the filtered water must:		
The lowest percent of samples that met Turbidity Performance No. 1 was 100%. Highest single turbidity measurement 2012 was 0.058 NTU.				1. Be less than or equal to 0.10 NTU in 95% of measurements in a month.		
				2. Not exceed 0.5 NTU at any time.		
* Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of the water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.						

**Note:** The above data includes constituents from groundwater and surface water sources.

## WATER REPORT

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which will enable the City to optimize the number, size and location of wells to accomplish the cleanup in an efficient manner. The City's share of these costs has largely been determined and a series of rate adjustments has been adopted. More information on this can be found on the City's website.

See a water emergency?  
Phone (209) 368-5735

nerable to the following activities: gas stations (current and historic), chemical/petroleum processing/storage, metal plating/finishing/fabricating, plastic/synthetics producers, dry cleaners, known contaminant plumes, sewer collection systems, fleet/truck/bus terminals, machine shops, utility stations-maintenance areas, agricultural drainage, and photo processing/printing.

officially began operation along with the Electric Utility, and for more than 100 years, the water system has been owned by the Citizens of Lodi. There were only two wells and a few miles of water mains a century ago. In 2012 there were twenty-seven wells, a surface water treatment plant, over 220 miles of mains, a water tower, a 1-million-gallon storage tank, and a 3-million-gallon storage tank. Lodi delivers water to approximately 23,000 residential, commercial and industrial customers.

Water rates, system expansion projects, and significant purchases are authorized by the Lodi City Council, which serves as the water utility's official regulatory body. Lodi City Council meetings are open to the public and are scheduled at 7:00 p.m. the first and third Wednesdays of each month at 305 West Pine Street in Lodi. You may also communicate with the Council and City staff through the City's web site ([www.lodi.gov](http://www.lodi.gov)).

### BACTERIOLOGICAL QUALITY, CHLORINATION

Lodi takes over 20 samples per week from throughout Lodi's water distribution system for bacterial water quality. Regulations allow for 5% of all total coliform samples in a month to be positive. Lodi met all bacteriological standards were in 2012

The water receives low level chlorination as a proactive step to help keep the water system in compliance with strict bacteriological standards.

### DRINKING WATER SOURCE ASSESSMENT

An assessment of the ground water sources for the City of Lodi's water system was completed in February 2003. The sources are considered most vul-

A copy of the completed assessment is available at the Public Works Department, City of Lodi, 1331 South Ham Lane, Lodi, CA 95242.

You may request that a copy be sent to you by contacting Andrew Richle at (209) 333-6878. A copy of the complete assessment is also available at the Department of Health Services, Drinking Water Field Operations Branch, Stockton District Office, 31 E Channel Street, Room 270, Stockton, California 95202.

You may also request that a copy be sent to you by contacting Bhupinder Sahota, Sanitary Engineer, at (209) 948-7696

### WHO ARE WE?

In 1910 your City of Lodi Water Utility

## WATER CONSERVATION

In 2012, 4.99 billion gallons of water were pumped to meet Lodi's water demands. This is 30% less water use per person than in 1986. As population in Lodi and California increases, water conservation becomes an important part of meeting demands for fresh water.

The commitment of the citizens of Lodi to conserving water also helps conserve the electrical

energy needed to pump the water to homes and businesses. To further conserve water, electrical energy, and wastewater treatment plant capacity, the City has instituted a rebate program for water saving devices such as low-flow toilets.

Your diligent water conservation practices, as in the past, are needed in 2013. Your water conservation efforts have

also averted millions of dollars in capital costs, helping rates stay low.

See the summary of the Lodi Water Conservation Ordinance at [www.lodi.gov](http://www.lodi.gov) – go to: City Departments, Public Works, Water, Water Conservation. For information or to report a water waste, call the Water Conservation office at 333-6829.

### WATER CONSERVATION REBATE PROGRAM

The City of Lodi is offering rebates on the purchase and installation of water conserving devices at residential and commercial water customer premises within the City of Lodi.



Rebates of up to \$44 are given for Ultra Low-Flow Toilets rated at 1.6 gallons per flush or less and must be replacing units using a higher volume of water per flush. Rebates of up to \$100 are available for pressure assist PF/2 Ultra Low-Flow 1.6 gallon toilets. Additional rebates of 50% are available on Low-Flow Shower Heads, Insulated Hot Water Blankets, and Hose Bib Manual Timers for outside water hoses.

The program is funded by the Water and Wastewater Utilities. Please contact Kathryn Garcia at 333-6740 for information and additional requirement of the rebate program.



## TERMS AND ABBREVIATIONS USED

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

**Public Health Goal (PHG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

**Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

**Regulatory Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

**Notification Level (NL):** Health-based advisory levels established by DHS for chemicals in drinking water that lack maximum contaminant levels (MCLs).

**Primary Drinking Water Standard or PDWS:** MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

**Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**mg/L or ppm:** Milligrams per liter, or parts per million (one ppm equals a concentration of about one cup in a 60,000 gallon swimming pool).

**ug/L or ppb:** Micrograms per liter, or parts per billion (one ppb equals about 4.5 drops in a 60,000 gallon swimming pool).

**ppt:** Parts per trillion (one ppt equals less than 1/200 of a drop in a 60,000 gallon swimming pool).

**pCi/L:** Picocuries per liter (a measurement of radiation).

**NA:** Not Applicable.

**ND:** Not Detected at measurable amounts for reporting purposes.

**Grains/gal:** Grains per gallon. A hardness measurement often used for softeners and dishwashers. (17.1 mg/L = 1 grain/gal as calcium carbonate).

**umhos/cm:** Micromhos per centimeter (a measurement of conductance).

**<** Means less than the amount shown.

**>** Means more than the amount shown.

## THINGS YOU SHOULD KNOW ABOUT DRINKING WATER

- Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at (1-800-426-4791).
- Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).
- The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.
- Contaminants that may be present in source water include:
  - Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plant, septic systems, agricultural livestock operations, and wildlife.
  - Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
  - Pesticides and herbicides, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
  - Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
  - Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.
- In order to ensure that tap water is safe to drink, US Environmental Protection Agency (USEPA) and the State California Department of Health Services (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.
- If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Lodi is responsible for providing high quality drinking

water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

**RADON** is a naturally occurring radioactive gas that you can't see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air-containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call your State radon program (1-800-745-7236), the EPA Safe Drinking Water Act Hotline (1-800-426-4791), or the National Safe Council Radon Hotline (1-800-SOS-RADON).

**ARSENIC:** After a long debate, the drinking water standard for Arsenic was lowered from 50 ppb (parts per billion) to 10 ppb. The following message is required for systems that have some sources containing Arsenic below the new standard of 10 ppb, but over half (5 ppb). The average in Lodi's wells is 4.3 ppb and the highest well is 9.1 ppb.

While your drinking water meets the Federal and State standard for arsenic, it does contain low levels of arsenic. The standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. Environmental Protection Agency continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

**NITRATE:** The following message is required for systems that have some sources containing Nitrate below the standard of 45 ppm (as NO<sub>3</sub>), but over half (23 ppm) of the standard. The average of Lodi's wells is 8.1 ppm and the highest well is 29 ppm.

Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.